

I. SAFETY ELEMENT

Challenges

This general plan element seeks to reduce deaths, injuries, illnesses, damage to property, and economic and social dislocation that could result from safety hazards. The general plan's role in providing for safety is rooted in the U.S. Constitution, which specifically authorizes government to exercise "police power" in order to protect public health, safety, and general welfare. This allows local governments to regulate land use, zoning issues (such as setbacks) and construction standards. Formerly, safety elements in California general plans covered only seismic and wildfire issues; however, State Planning Guidelines adopted in the past decade indicate that other locally-relevant issues should also be addressed. Therefore, this 2025 General Plan Safety Element also deals with potential urban fire risks, flooding, hazardous materials, and airport safety. The element includes information on electromagnetic fields, although present scientific data are not conclusive as to their potential hazard to public health and safety.

Direction

This Safety Element has policies relevant to the following subject areas:

1. **Fire Hazards.** Fresno's high summer temperatures, intense sunlight, and low rainfall potentiate fires by drying and pre-heating combustible material and by fostering spontaneous combustion of flammable material. Fresno's estimated maximum wind speed (used to design structures) is 70 mph, which could fan blazes to a high intensity. The San Joaquin River Bluff area in northern Fresno is prone to wildfire due to steep terrain and vegetation. Industrial uses/processes and storage facilities in the metropolitan area have large quantities of flammable and/or toxic materials on-site, creating a heavy demand on Fire Department inspection services and suppression resources. The 2025 General Plan also provides for more intensive development, where large and tall structures may present challenges in fire suppression and evacuation. While fire suppression and fire-safe construction is generally covered in the Urban Form and Public Facilities Elements, policies in this section of the Safety Element focus on special fire safety issues.

2. **Seismic and Geologic Hazards.** Fresno is in one of the more geologically stable areas of California, in Seismic Safety Zone III, with no Alquist-Priolo Earthquake Fault Zones. However, it is on a deep alluvial basin and may be affected by strong seismic events in, or near, the east and west ends of Fresno County. In the northern portion of the Fresno sphere of influence, there are some areas of expansive clay soil which require special construction standards for foundations and infrastructure. This section of the Safety Element provides policy direction to deal with these risk factors.

3. **Flooding Hazards.** Fresno's precipitation comes in episodic storm events, which may be severe and may cause localized flooding. The Fresno area receives inflows of regional runoff from a huge watershed to the east, and is in the path of natural drainage from the valley floor, foothills and Sierra Nevada range. The San Joaquin River, confined between bluffs, comprises the northern boundary of Fresno. A series of river floods during the 1980s and 1990s has prompted the Federal Emergency Management Agency to drastically revise its estimate of 100-year flood flows in the river channel and to develop a new National Flood Insurance Protection (NFIP) rate map for the

area. The Fresno County Stream Group contributes stormwater flows directly into the metropolitan area, but development of major detention structures in the eastern part of the county enabled NFIP maps in Fresno to be revised in the early 1990s to show a reduced 100-year flood risk from that source. The city is also required to participate in disaster planning for potential dam failure events on the San Joaquin River, Kings River, and Fresno Stream Group. In conjunction with the Fresno Metropolitan Flood Control District Master Service Delivery Plan (developed and adopted by that special district) and with policies in the Fresno 2025 General Plan Public Facilities Element, this section of the Safety Element gives policy direction to protecting life, health, private property, and infrastructure from flood hazards.

4. Hazardous Materials. Hazardous materials are those which, by their nature (chemical, physical, or biological properties), have the potential to cause death or serious illness during use/consumption, processing, storage, transport, or when improperly disposed of. These materials may be flammable, explosive, corrosive, chemically reactive, toxic, carcinogenic, radioactive, infectious, or may harm people through skin contact, inhalation, or pharmaceutical action. These risks have generated a great deal of regulation at federal, state, and local levels. Due to this comprehensive definition, almost all land uses may involve these materials. Projects where these materials are stored and used require identification and special development standards. Sites previously contaminated by these materials are required to be identified and cleaned up. Transport of these materials on local, regional, state, and federal roadways is also regulated. This section of the 2025 General Plan Safety Element provides policies intended to keep the city in compliance with existing regulations, and to preserve public health and life safety by prudent safeguards.

5. Radiowave and Electromagnetic Emissions. Electromagnetic and radiofrequency radiation include microwaves, radio and television broadcasting signals, and low-level electrical and magnetic phenomena associated with power equipment. These are "non-ionizing radiation," energy emissions that radiate from a source but are not the same as the radiation emitted by radioactive substances. Close contact with high-level electromagnetic, microwave, and radiofrequency radiation can cause damage such as burn-type injuries. Negative health effects have been alleged to result from long-term exposure to low-levels of electromagnetic, microwave, and radiofrequency emissions, but studies have not been conclusive. Significant scientific and public debate continues on this issue. Without conclusive evidence of harm from environmental exposures, the 2025 General Plan Safety Element is not providing any policy direction; the city will, however, observe safety regulations promulgated by other agencies such as the Occupational Safety and Health Administration.

6. Airport Safety. Airports may impact public safety due to the potential for aircraft crashes. There are three public airports in the City of Fresno General Plan area: Fresno-Yosemite International Airport (designated by the Federal Aviation Administration as FAT, reflecting its formal name, Fresno Air Terminal), Fresno Chandler Downtown Airport (designation FCH), and Sierra Sky Park (designation Q60). In conjunction with Fresno-Yosemite International Airport, the Air National Guard maintains an airbase for military flight and training operations. Each airport has its own city specific plan and airport land use plan designed to provide for public safety.

Relationship to General Plan Goals

General Plan goals relevant to the Safety Element include:

- Goal 1: Enhance the quality of life for the citizens of Fresno and plan for the projected population within the moderately expanded Fresno urban boundary in a manner which will respect physical, environmental, fiscal, economic, and social issues.
- Goal 13: Plan for a healthy business and diversified employment environment, and provide adequate timely services to assure that Fresno is competitive in the marketplace.
- Goal 14: Protect and improve public health and safety.

Fire Hazards

I-1. OBJECTIVE: Maintain a high level of fire protection for large and tall structures constructed in the City of Fresno.

I-1-a. Policy: Adopt appropriate standards, as necessary, for fire protection and fire suppression within high-rise buildings.

- The City of Fresno shall enforce the latest adopted version of the California Code of Regulations Title 24 standards regarding high-rise buildings, to ensure the highest level of fire protection for new and existing construction.
- The City of Fresno shall pursue to the fullest extent possible the existing city ordinance and Uniform Fire Code (UFC) and National Fire Protection Association (NFPA) standards for the installation of automatic fire sprinkler systems for all new construction and for existing construction where trade-offs are allowed by local ordinance.
- Maintain and enforce the provisions of Fresno Municipal Code that relate to fire protection requirements (public service delivery plan and fire access lanes/areas) for mid-rise and high-rise buildings.
- The City of Fresno shall maintain adequate personnel and equipment, based at appropriate locations, to expeditiously meet the fire prevention, life safety, and emergency mitigation needs for large and tall structures.

I-2. OBJECTIVE: Ensure the public's health, safety, and welfare by implementing appropriate controls and emergency response capability to deal with those materials that, because of their quantity, concentration, physical or chemical characteristics, pose a significant present or potential hazard to human health, safety, or the environment.

I-2-a. Policy: Maintain and enforce the latest adopted California Building Code and Uniform Fire Code standards to ensure safe processing and storage of hazardous materials.

- I-2-b. Policy:** Maintain a close liaison with the Fresno County Environmental Health Department, Cal-EPA Division of Toxics, and the State Office of Emergency Services to assist in developing and maintaining hazardous material business plans, inventory statements, risk management prevention plans, and contingency/emergency response action plans.

Seismic and Geologic Hazards

- I-3. OBJECTIVE:** Ensure the public's health, safety, and welfare by recognizing potentially geologically unstable conditions that could endanger the lives and property of the Fresno-Clovis Metropolitan Area residents.

- I-3-a. Policy:** The City of Fresno shall enforce the latest adopted Uniform Building Code and the Dangerous Building Ordinance (Article 12 of Fresno Municipal Code, Chapter 12) to ensure seismic protection for new and existing construction.

- I-3-b. Policy:** Swimming pools and spas shall be considered structures for purposes of engineering evaluations of soil and seismic stability, and these structures shall conform to setback requirements imposed to safeguard construction from unstable strata.

- I-3-c. Policy:** In areas having potential geological and soils hazards, development shall not have on-site drainage or disposal for wastewater, stormwater runoff, or spas and swimming pool water, unless a soil analysis by a registered civil engineer (or engineering geologist specializing in soil geology) concludes that on-site drainage/disposal will not induce geologic hazards.

- I-3-d. Policy:** Development shall be prohibited in areas where analysis by a registered civil engineer or registered geologist determines that no corrective measures could feasibly mitigate potential geologic hazards.

- I-3-e. Policy:** Development entitlements and permits for properties which are affected by inactive landfill areas, shall not be approved until potential landfill-related problems are addressed by way of a comprehensive engineering analysis. The approval of development entitlements and permits for these areas shall be conditioned upon a soils and foundation study that determines the location and extent of the landfill-related potential problems and how those problems will be addressed prior to the construction of any buildings.

- I-4. OBJECTIVE:** Minimize the loss of life and property on the San Joaquin River bluffs that could occur due to geologic hazards.

I-4-a. Policy: Maintain and enforce the requirements of the city's Bluff Preservation (BP) Overlay Zone District. Development within 300 feet of the toe of the San Joaquin River bluffs shall require an engineering soils investigation and evaluation report that demonstrates that the site is, or methods by which the site could be made, sufficiently stable to support the proposed development.

I-4-b. Policy: The minimum setback from the San Joaquin River bluff edge (as the bluff edge is defined in the Fresno Municipal Code) for all future structures (including swimming pools, spas, and accessory structures) shall be thirty (30) feet. However, a building setback of less than thirty (30) feet may be permitted if it can be demonstrated to the satisfaction of the City's Building Official and Planning and Development Department Director that a proposed structure will meet the objective of the Bluff Preservation Overlay Zone District, as stated in the Fresno Municipal Code; but in no case shall the minimum building setback from the bluff edge be less than twenty (20) feet for any structure, and no rear yard encroachments shall be allowed within that twenty (20) feet.

Flooding Hazards

I-5. OBJECTIVE: Protect the lives and property of current and future residents of the Fresno Clovis Metropolitan Area (FCMA) from the hazards of periodic floods. Recognize and institute adequate safeguards for the particular flooding hazards of areas on the San Joaquin riverbottom and bluffs.

I-5-a. Policy: Support the full implementation of the Fresno Metropolitan Flood Control District (FMFCD) Storm Drainage and Flood Control Master Plan, the completion of planned flood control and drainage system facilities, and the continued maintenance of stormwater and flood water retention and conveyance facilities and capacities.

I-5-b. Policy: The San Joaquin River will not be channelized, and levees will not be used in the river corridor for flood control, excepting those alterations in river flow that are approved with surface mining and subsequent reclamation activities for mined sites (e.g., temporary berms and small side channel diversions to control water flow through ponds).

I-5-c. Policy: Ensure implementation of the Fresno Metropolitan Flood Control District control programs for the Fresno County Stream Group, including completion of the Redbank-Fancher Creek Flood Control Project, and the FMFCD rural streams program to provide protection to the urban community from waters originating outside the urban area.

I-5-d. Policy: Ensure implementation of the Fresno Metropolitan Flood Control District urban drainage program, including completion of the urban storm drainage systems to provide protection to the urban community from waters originating within the urban area.

I-5-e. Policy: Ensure implementation of land grading and development policies which protect area residents from flooding caused by urban runoff produced by events which exceed the capacity of the Storm Drainage and Flood Control Master Plan system of facilities.

I-5-f. Policy: The minimum level of design flood protection shall be the 100-year (one percent) event, as established by the best and most current available data from the U.S. Army Corps of Engineers and the California Department of Water Resources, pursuant to Federal Emergency Management Agency (FEMA) direction.

I-5-g. Policy: Establish special building standards for private structures, public structures, and infrastructure elements in the San Joaquin riverbottom which would protect:

- construction in this area from being damaged by the intensity of flooding in the riverbottom.
- water quality in the San Joaquin River watershed from flood damage-related nuisances and hazards (e.g., the release of raw sewage).
- public health, safety, and general welfare from the effects of flood events.

I-5-h. Policy: Complete studies, addressing the limitations of the areas' geological and hydrological status and all the relevant features of the proposed project, will be required prior to the approval of any construction or development project proposed in the San Joaquin riverbottom or below the top of the San Joaquin River bluffs.

- Designated Floodway Map developed by the State Board of Reclamation.
- Mapping of the 100-year floodplain with the best available current data and its relationship to the finished project.
- Central Valley Project easements on the property.
- Surrounding topography, river channel configuration and flow characteristics, and on- and off-site drainage features.
- Soil characteristics and mineral resource zone classification of the project locale.
- The presence of wetlands, natural vegetation, and wildlife, for which the Clean Water Act and related federal and state legislation may require consultation with the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game.
- Existing sand and gravel mining and processing facilities in the vicinity.
- Grading activity proposed for the construction of the project.
- Residential uses, and proposed structures and accessory structures.

- Vehicular and pedestrian access for ingress, egress, and emergency response access; primary and secondary roadways and driveways with appurtenant bridges, trestles, and culverts.
- Water wells, septic tanks, and on-site propane or other fuel tanks.
- Utility infrastructure (water, sewer, power, and telecommunication lines).
- Fencing and walls.
- Ability to provide flood warning and rapid evacuation of the site.

In consideration of these and other relevant factors that may arise during project review, the proposed construction or development project may be denied, or additional flood protection measures may be required.

I-5-i. Policy: The City of Fresno shall preserve flood-prone areas within the City of Fresno and its Sphere of Influence, particularly the San Joaquin riverbottom, for uses which will not have permanent improvements that would be adversely affected by periodic floods.

I-5-j. Policy: The City of Fresno shall continue to assign open space zoning to all undeveloped areas which are within the Designated Floodway of the San Joaquin River and the floodway channels of Dry Creek, Redbank Creek, Fancher Creek, and other streams.

I-5-k. Policy: Except in the San Joaquin riverbottom (where new residential subdivisions are not allowed by the multi-use open space land use designation), the City of Fresno shall require developers of residential subdivisions to preserve those portions of development sites as open space, which may be subject to 100-year flood events, unless the flood hazard can be substantially mitigated by development project design. This shall be a condition of subdivision map and special permit approval.

The density of developable adjacent land may be increased to allow the same number of dwelling units as if the entire site were developed. In such instances, the open space area should be incorporated into the project design to provide amenity and passive open space for future residents. This open space should be improved and maintained by the developer, or through the use of such mechanisms as homeowners association fees or maintenance districts.

I-5-l. Policy: New residential uses which are inconsistent with "AE-20"/Exclusive Twenty-Acre Agricultural District zoning will be prohibited in the San Joaquin riverbottom.

I-5-m. Policy: A valid beneficial use of the San Joaquin River corridor is to transport floodwater, and this use must be protected. Riverbottom land uses will be managed with the following objectives:

- to control and reduce erosion in the floodway.
- to maintain the combined existing flow capacity in the river channel and the designated floodway by establishing ordinances and policies to prevent nuisance blocking of flood flow.
- to maintain the river stage required to pass any given flow, so as not to increase the extent of flooded area (no increase in the designated floodway), unless any resulting loss in private land value is first purchased from willing sellers.
- to coordinate any snagging and clearing activities for river channel enhancement with resource agencies to minimize conflicts with natural habitat preservation and mineral extraction activities (including reclamation).

I-5-n. Policy: As new information becomes available, maps of record which designate areas subject to flooding will be amended.

- Assist the U.S. Army Corps of Engineers, State Department of Water Resources, FEMA, and the Fresno Metropolitan Flood Control District, with mapping projects for floodplains. Establish the updating of floodplain maps in the San Joaquin riverbottom as a main priority in order to protect health, safety, and general welfare in the riverbottom.
- Maps of the inundation areas for dam failures on the San Joaquin River, Kings River, and the Fresno Stream Group will also be maintained for city emergency preparedness and other planning purposes.
- Provide and utilize updated flood map and inundation information for review of development projects.

I-5-o. Policy: Pursuant to state law, the city shall prepare and update emergency dam failure inundation plans, evacuation plans and other emergency response plans for designated flood-prone areas, including the San Joaquin riverbottom.

Hazardous Materials

I-6. OBJECTIVE: Reduce and control the adverse effects of hazardous materials on the public's health, safety, and welfare so as to promote the public health and welfare of local residents and the productive capacity of industry.

I-6-a. Policy: Hazardous materials will be defined as those that, because of their quantity, concentration, physical or chemical characteristics, pose a significant potential hazards to human health, safety, or the environment. Specific federal, state, and local definitions and listings of hazardous materials will be used by the City of Fresno.

I-6-b. Policy: The city will coordinate and cooperate with other local, state, and federal agencies with expertise and responsibility for hazardous materials.

- I-6-c. Policy:** Approval of annexations, and development projects (including issuance of building permits) will be subject to state and federal requirements for adequate assessment and mitigation measures on listed hazardous material sites and for business activities that involve more than threshold amounts of hazardous materials.
- I-6-d. Policy:** As may be appropriate, the city shall require and evaluate the results of "Level I" and further site investigations before approving development entitlements on, or annexation of, property.
- I-6-e. Policy:** Through the environmental review process for land use plans and other development projects, the city will continue to identify and assess the health- and safety-related implications of storage, use, and disposal of hazardous materials.
- I-6-f. Policy:** All commercial and industrial special permits will be conditioned upon proper containment, use, safeguarding, and disposal of hazardous materials.
- I-6-g. Policy:** The city will continue to prevent, assess, and seek remediation for, any hazardous material contamination within, and affecting, its planning area.
- I-6-h. Policy:** The city will continue to aid in the identification and mapping of waste disposal sites (including abandoned wastes), and to assist in the survey of the kinds, amounts, locations, etc., of hazardous wastes.
- I-6-i. Policy:** The city will utilize conditions for development projects, will adopt and enforce ordinances, and will use its police powers for land use regulation, code enforcement and nuisance abatement in order to prohibit the inappropriate use of, and/or discharge of, toxic and hazardous materials to the atmosphere, to wastewater collection and storm drainage systems, to groundwater, and to surface bodies of water, when such use or discharge threatens public health, safety, or general welfare.
- I-6-j. Policy:** Disaster and emergency response preparedness and planning for the city will include procedures and policies appropriate to hazardous materials.
- I-6-k. Policy:** The city will continue to support and assist with special household hazardous waste collection activities, to reduce the amount of this material being improperly discarded.
- I-6-l. Policy:** The city will continue to assist in providing information to the public on hazardous materials.

Radiowave and Electromagnetic Emissions

Utility companies do not recommend undergrounding of electrical equipment and transmission lines as an effective form of shielding. Electromagnetic fields (EMF) can travel through solid substrates. Therefore, underground power lines (and their electromagnetic fields) can be closer to people than the lines and fields associated with overhead power poles and towers.

It has been found, however, that the position of overhead power lines with respect to each other can reduce EMF, because electromagnetic fields generated by each line can work to help "cancel out" the fields of other power lines. The "delta" configuration for power lines is recommended for this: utility towers are designed so that a cross-section of power line configuration shows high-voltage wires at the corners of a specified triangle.

Potential Exposures in the City of Fresno General Plan Area

The following areas within the City of Fresno General Plan area also face potential exposures to radiowave and electromagnetic emissions:

- areas adjacent to high-voltage transmission lines and electrical substations, existing and planned.
- areas adjacent to commercial radio and TV broadcast towers.
- areas adjacent to microwave repeaters (antennae).

City of Fresno Regulation of Exposure to Non-Ionizing Radiation

Although the Fresno Municipal Code gives the Planning and Development Department input on the siting of high-voltage transmission line rights of way, the Public Utilities Commission has primary and final jurisdiction over these matters.

While the Federal Communications Commission is the primary licensing authority for radio and television broadcast equipment, the Fresno Municipal Code (Zoning Code) exerts regulation of these facilities as a type of land use. In the city, radio and television broadcasting is allowed by right in some industrial zone districts (site plan review required), and is allowed by discretionary permit (conditional use permit) in some commercial zone districts.

The Public Utilities Commission regulates microwave communication equipment, but again, the city's Zoning Code provides for discretionary land use permits for microwave broadcasting equipment in most areas of the city, including both residential and non-residential zone districts.

Airport Safety

- I-7. OBJECTIVE:** Develop and operate Fresno's airport facilities to meet present and anticipated demands and promote the economic health of the community while protecting the safety, health, and welfare of persons and property on the ground and in aircraft by minimizing exposure to airport-related hazards.

- I-7-a. Policy:** Through application of appropriate land use controls set forth in adopted airport plans, limit urban encroachment in order to support the continued viability and flight operations of Fresno's airports and to protect public safety, health, and general welfare.
- I-7-b. Policy:** The Federal Aviation Regulations (FAR) Part 77, Subpart C surfaces depicted in adopted airport plans shall be used in conjunction with airspace protection policies to determine whether the height of an object is acceptable.
- I-7-c. Policy:** Avigation easements shall be employed in order to secure and protect airspace required for unimpeded operation of publicly owned airports. Avigation easements shall be established in the form of covenants running with the land and shall be binding upon present and subsequent owners of property interests.
- I-7-d. Policy:** Buyer notification shall be accomplished by the use of required State Department of Real Estate Disclosure Statements prepared by seller.
- I-7-e. Policy:** The policies of adopted city airport environs and specific plans pertaining to noise, safety, airspace protection, avigation easements, and buyer notification will be applicable to land within the review area boundaries of public use airports.
- I-7-f. Policy:** Allow for the orderly expansion and improvement of Fresno's publicly-owned airports (Fresno Air Terminal/Fresno-Yosemite International Airport and Fresno Chandler Downtown Airport), while minimizing adverse environmental impacts associated with these facilities.
- Adopt land use policy plans (airport environs plans or specific plans) and facility plans which support the airport facilities and well-being of the people residing and working in the airport's surrounding area.
 - Land use within the boundaries of the Fresno Air Terminal/Fresno-Yosemite International Airport and Fresno Chandler Downtown Airport shall be governed by the designations and policies specified in adopted airport facility plans.
 - Local jurisdictions surrounding the city's publicly owned airports will be provided with specific guidelines for effectively dealing with opportunities and problems generated by the presence and operation of these airports.